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ABSTRACT

This study sought to determine the causes of high or low attainment in preschool, focusing on 17 factors identified as having a significant influence on the development of children's abilities. The study focused on home factors influencing attainment among 30 high ability and 30 low ability children from preschools in Głowno, Poland. Questionnaires completed by their mothers revealed that children with high attainment reached a much higher fulfillment of educational stimulations of their parents than children with low attainment. Parents of children from the high ability group attached more importance and made more efforts to stimulate the development of their own children than the parents of the children from the low ability group. This is best shown in such factors as setting a good example in performing professional duties, creating opportunities for involving the child in discussion, good emotional contact, vocabulary development, and the child's involvement with nature. The influence of mothers' ascendancy over the child, helplessness toward the child, concentration on the child, and aloofness toward the child regarding attainment were also examined. (MDM)

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FACTORS WHICH PROMOTE HIGH ATTAINMENT IN CHILDREN OF PRE-SCHOOL AGE

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INTRODUCTION

We often ask ourselves a question concerning possibilities of accelerating and enriching development of children and youth. Sometimes we even wonder whether it is possible at all and if so then who and how can and should do it.

It is hardly possible to give an explicit answer to this question, because man's ontogenic development is very complex and determined by many different factors. These factors are known for their most part and accepted, to the greater smaller degree, by both science and everyday educational practice. Things tend to complicate when we are trying to answer a question how abilities develop under influence of different factors and how this looks different stages of children's development, and especially among children in pre-school age (between 3 and 6 years of age). Will it suffice to ensure for them nutrition, decent material and cultural conditions and love of their parents and those close to them or should something additional be still done?

We are aware that even the best material conditions are not sufficient in themselves for a successful development of a child, and particularly high-ability child although it is known that they are indispensable. Besides them there is also needed wise parental love and, moreover, diversified influence exerted by persons responsible for the upbringing of children. The experience gathered by numerous eminent educators shows that favourable changes in favour of high ability development can be observed under influence of an environment, which is rich in diverse educational impacts.

Guided by the above conviction I decided to select 17 factors having a significant influence on development of children's abilities. These factors were recurring most often (from among all other factors) in numerous publications and opinions of both parents and kindergarten teachers.

These factors have been selected out of 35 answers given by kindergarten teachers in reply to the question: *"What decides that pre-school children achieve high or low results in the kindergarten?"*

The answers were then subjected to a selection and evaluation by a team of "competent judges" composed of practising psychologists and kindergarten teachers. The obtained factors were then analyzed from the psychological point of view.

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PURPOSE AND ORGANIZATION OF RESEARCH

The purpose of this research was to arrive at causes of high or low attainments in the kindergarten while preparing pre-school children for school education in the so-called „0” class. So two distinct 30 person groups were selected out of 186 six year children from Głowno (a town of 17.000 inhabitants with rather dispersed spatial development). 30 were considered (by competent persons) high ability children well socially adapted; the other group of 30 children were regarded as children who had serious difficulties in fulfilling the kindergarten duties and who were not too well adapted to kindergarten conditions.

To verify the hypothesis that favourable home conditions have an essential effect on enriching their development 17 items conditioning positive or negative influence on pre-school children (3-6 years) were accepted. These are:

1. Rational nutrition, educational equipment (drawing materials, erayons, coloured pencils etc.) satisfaction of cultural needs, diversity of educational influences, good educational example set by the parents (expressed among others in their exemplary profesional activity), level of active, educational influence of the family, organizing various forms of artistic activity by parents, „mobilizing role” of the family, creating situations which give the child the oportunity to be successful, creating situations whichrequire the child to act as a **decision**-maker, degree of approval and recognition expressed in relation to the child, creating situations which involve the child in discussion and make the child express its own opinion, stimulating the enrichment of the child's vocabulary, the child's involvement in nature observation, the child's involvement in nature observation, the child's participation in the care of plants and domestic animals, the frequency of opportunities to succed, emotional contact of parents with the child.

The analysis of the data contained in Table 1 shows clearly that children with high attainments reached a much higher fulfilment of educational stimulations of their parents in most items than children from the group of low attainments. That means that parents of children from high ability group attach more importance and make more efforts to simulate the development of their own children than the parents of children with low levels of attainments. It is best shown in such factors as:

1. Setting a good example in performing their professional duties (item 17).
2. Creating opportunities involving the child in discussion and expressing its own opinion (item 12).
3. Good emotional contact (item 17).
4. Stimulating the development of child's vocabulary (item 13).
5. Child's involvement in nature observation (item 14).

These factors proved as the most stimulating the social and mental development of pre-school children. It is worth noting that other factors are also significant especially.

1. Approval and recognition shown to the child (item 11).
2. Degree of activity and influence of family environment (item 6).

3. The child's participation in the house-work in the garden or in the allotment (item 15).

At the same time it should be noted that children from the high attainments group quite often became an object of smaller attention paid to their development. However, the children with a low level of attainments became more often neglected by their parents. That applied especially to:

1. Organizing all forms of artistic activity together with the child (item 8).
2. Stimulating richer vocabulary (item 13).
3. The child's participation in house-work, in the garden or in the garden-allotment (item 15).

All it results from Table 1, the differences between both groups of investigated children are distinct and significant at the level

$$p < .01; \chi^2 \text{ for the group with high achievements} = 94.757$$

$$p < .01; \chi^2 \text{ for the group with high achievements} = 44.156.$$

That means that there is a dependence between the degree of enriching the child's development by parents and the way of its functioning in the pre-school group.

It results from the above data that satisfying some needs of the child which conduction child correct development the parents are mostly quited by their convictions about a greater or smaller importance of some educational activities. In this connection I thought it might be advisable to arrange these stimulating factors in respect of importance (hierarchy) for both studied groups.

The hierarchy of importance of stimulating activities is different for both groups. The good educational example of parents was first in the group of highly developed children whereas in the group of children with slow development it occupied the second place. According to parents of children with low attainments the most important was rational nutrition whereas in the first group this factor was sixth. The hierarchy of other factors in both groups does not differ greatly. There are, however, differences in their intensity. In the first group the highest degree of intensity of particular factors is characteristic whereas in the second group the average degree of intensity is prevalent.

It turned out that (in respect of both groups) parents attached least importance to „expressing approval recognition” and to organizing artistic activity together with the child. The above-mentioned factors occupied two last places arrangement in the hierarchie.

Generally we can say that importance and the degree of satisfying the accepted needs and the parents' knowledge about the psychical amd physical development of the child vary largely and it is difficult to say with utmost certainty with of the accepted factors play on essential role in enriching the psyhical and physical development of the pre-school child (3-6 years of age).

Table 1

Degree of Fulfilment of Parents' Activities Stimulating the Child's Development

	Factors conditioning the degree of the child's satisfaction of needs:	High Ability Children n = 30			Average and low Ability Children n = 30		
		high	average	low	high	average	low
1.	Rational nutrition	12	18	-	7	18	5
2.	Equipment with education aids, toys	14	16	-	7	19	4
3.	Diversity of satisfying cultural needs	11	17	2	5	21	4
4.	Diversity of educational influences	10	20	-	6	16	8
5.	Good education example set by the parents who well perform their professional duties	26	4	-	18	8	4
6.	Degree of activity and influence of family environment	7	22	1	4	14	12
7.	Activating role of family environment	10	16	4	7	13	10
8.	Organizing artistic events and performance jointly by parents and the child	2	14	14	-	12	18
9.	Creating situations which give the child the opportunity to be successful	11	19	-	10	12	8
10.	Creating situations requiring the child to take decision	13	14	3	6	15	9
11.	Approval and recognition expressed to the child	1	22	7	-	20	10
12.	Creating opportunities of involving the child in discussion and expressing one's own opinion	22	8	-	14	9	7
13.	Stimulating richer vocabulary	15	14	1	12	8	10
14.	Child's involvement in nature observation	15	13	2	8	16	6
15.	The child's participation in house-work, in the care of plants at home and in the garden	8	21	1	6	11	13
16.	Frequency of opportunities to succeed	12	14	4	10	13	7
19.	Emotional contact with the child	22	8	-	15	13	2
Total N = 60		211	260	39	135	238	137
The mean percentages		41.4	51.0	7.6	26.5	46.7	26.8

PARENTAL ATTITUDES OF MOTHERS TOWARDS THEIR OWNS CHILDREN WITH DIFFERENT ATTAINMENT LEVELS IN THE KINDERGARDEN

After having analyzed a list of 17 factors conditioning child development process in the family environment we are going to proceed now to examine parental attitudes of these children's mothers (see part one of this article). This procedure results from the conviction that for a child 3-6 years old mother still remains the closest and most affectionate person. Mothers cares for the child's basic needs also psychic and emotional, she rewards and punishes the child, listens to the child's requests, dreams and troubles. We have measured mother's attitudes by means of a questionnaire (elaborated by Maria Ziemska).

The questionnaire consists of 4 scales:

1. Mother's ascendancy (supremacy) over the child.
2. Helplessness towards the child.
3. Concentration on the child.
4. Distance (aloofness reserve) towards the child.

The obtained results regarding parental attitudes of the examined mothers have been converted to scales expressed in:

- the desired intensity of mother's attitude 1-4 stens,
- the moderate intensity of mother's attitude 5-6 stens,
- the undesirable intensity of mother's attitude 7-10 stens,

The first scale measuring „Parental attitudes” of mothers according to M. Ziemska's questionnaire is called „The Attitude of Ascendancy” (Supremacy).

Table 2

Scale of Ascendancy (supremacy among the investigated mother's)

Level of attainments		sten norms in %				Total
		1 - 2	3 - 4	5 - 6	7 - 10	
Children with a high level of attainments	n	5	11	12	2	30
	%	16,7	36,7	40,0	6,6	100,0
Children with a low level of attainments	n	4	4	18	7	30
	%	13,3	13,3	60,0	23,4	100,0
Total	n	15	15	30	9	60
Total	%	10,0	25,0	50,0	15,0	100,0

Table 2 shows that the extreme, very low level of 1-2 stens has been obtained by only 10% mothers. The level of 3-4 stens has been obtained by 25% investigated mothers. These results point to desirable educational attitudes because they do not show marked ascendancy (supremacy) of mothers over children.

Analyzing the attitudes of mothers with high attainments children and low attainments children who obtained results 1-4 stens, we can notice some differences.

In the first group no marked ascendancy (supremacy) over children has been found among 53,4% mothers whereas in the group of low attainment chil-

dren no marked ascendancy has been found only among 16,6% mothers. That means that about 84% mothers let their children feel that their parental rule is unlimited.

Mothers who obtained values 1-4 are able to guide their children without stressing their ascendancy. They pay attention to signals and reactions that are shown by their children's behaviour. These mothers take into consideration the child's opinions, needs and wishes.

Moderate results 5-6 stens have been obtained by as many as 50% investigated mothers. These values have been more frequently obtained by mothers whose children are characterized by a low level of attainments and who represent 60% of the group. The share of mothers of children with high attainments was 40% of the group. The data of Table 2 show that only 6,6% of mothers with high attainment children have obtained the highest sten values whereas 23,4% of mothers with low attainment children have obtained the highest sten values. These mothers representing the position of power and authority are often ruthless in relation to their own children. They also use stringent criteria of control: their demands often exceed psycho-physical possibilities of the child.

The second scale measuring mothers' attitudes is the scale of Helplessness.

Table 3

The scale of Helplessness.

Level of attainments		sten norms				Total
		1 - 2	3 - 4	5 - 6	7 - 10	
Children with high attainments	n	4	6	8	12	30
	%	13,3	20,0	26,7	40,0	100,0
Children with low attainments	n	2	1	10	17	30
	%	6,7	3,3	33,3	56,0	100,0
Total	n	6	7	18	29	60
Total	%	10,0	11,7	30,0	48,3	100,0

21,7% mothers have obtained low results 1-4 stens. Most results in this category have been found among mothers of children with high attainments - 33,3% of the examined group. The respective figure for mothers of children with low attainments was 10%. That means that only 10% of the latter are characterized by desirable educational attitudes in the sphere of Helplessness. They are able to consciously create educational situations. Moderate results 5-6 stens have been obtained by 30% mothers. (27,7% mothers in the first group 33% mothers of mothers in the group of children with low attainments).

The obtained results point to symptoms of helplessness which occur in certain educational situations both among mothers of the first and the among mothers of the first and the second group.

An alarmingly large number of mothers of low attainment children (56,7% of the studied group) have obtained high results (7-10 stens) a little fewer mothers.

There were with a high attainment level (40% of the examined mothers). High results in the scale of Helplessness mean that mothers in this group show a definite lack of skills to control their children.

They show a considerable helplessness in solving educational problems, lack of resoluteness, lack of determination and consistency.

The differences between attitudes of mothers from both groups have reached the level of statistical significance $t = 2,20$ d f = 60; $p < 0,05$.

The third of the studied attitudes is concentration of feelings on the child.

Table 4

Concentration on the child among the investigated mothers.

Level of attainments		sten norms				Total
		1 - 2	3 - 4	5 - 6	7 - 10	
Children with high attainment levels	n	4	9	17	1	30
	%	10,0	30,0	56,7	3,3	100,0
Children with low attainment levels	n	1	4	16	9	30
	%	3,3	13,3	53,4	30,0	100,0
Total	n	4	13	33	10	60
Total	%	6,6	21,7	55,0	16,7	100,0

Only 17 mothers obtained low results in this scale with represents 28,3% of all the examined mothers; in particular groups this percentage was: 40% in the group of high attainment children and 16,6% in the group of low attainment children.

The obtained values - 1 to 4 stens indicate a warm emotional attitude of mothers to children without any special tension stress or excessive care. The low level of this attitude is educationally desirable. The characteristic features of this attitude are: the child is free to take a lot of decisions, the child's activity is not hampered, suitable conditions and educational situations are created which have an influence and the all-round development of the child.

55% of the mothers obtained moderate results 5-6 stens in the Scale of Concentration on the Child. The distribution of the data is uniform in both groups with a small advantage in the group of high attainment children (56,7%) as compared with the group of low attainment children (53,4%). The results at this level though regarded as moderate are thought educationally desirable. It is confirmed by the fact that among 16,7% of mothers with low attainment level there is an excessive concentration of maternity feelings. It is expressed in excessive protection or in making excessive demands. The attitude of excessive protection is mostly connected with the lack of consistency in education and in tolerating some undesirable behaviours of mothers towards children. The fourth of the examined attitudes is Distance (reserve) in contacts with the child. The obtained results are shown in Table 5.

Table 5

The scale of Distance among mothers towards children.

Level of attainments		sten norms				Total
		1 - 2	3 - 4	5 - 6	7 - 10	
Children with high attainments level	n	3	17	9	1	30
	%	10,0	56,7	30,0	3,3	100,0
Children with low attainments level	n	1	12	16	1	30
	%	3,3	40,0	53,4	3,3	100,0
Total	n	4	29	25	2	60
Total	%	6,7	48,3	41,7	3,3	100,0

We can see that 55% of mothers obtained 1 up 4 stens in the Scale of Distance. Mothers of children with a high level of attainments show 66% educationally desirable attitudes in the Scale of Distance while this share in the group of low attainments children was 43,3%. These answers show the close contacts of mothers with the child, the warmth in interaction and free exchange of feelings. These contacts are deprived of distance and reserve. These attitudes prove the favourable educational effect. Mothers who achieved low results (in this scale) try to satisfy physical and psychic needs and show great readiness to cooperate in the process of education. 41,7% of all mothers obtained moderate results (5-6 stens). The distribution of data in particular groups is here just the opposite in comparison with the distribution of low results (1-4 stens). Mothers of children with high attainments obtained moderate results much less frequently (30%) than mothers of children with low attainments (53,4%). We regard this category as educationally undesirable. This category indicates a tendency to a distance in contacts with the child, little manifestation of feelings. Mothers do not approve of the child's behaviour. Their attitude to the child is changeable depending on mother's mood. The results between 7 and 10 stens appeared only in two mothers: one from each group. This high level of results in the Scale of Distance means decidedly educationally undesirable attitudes. They are expressed in an excessive distance of parents in their contacts with the child, in withdrawing from direct contacts, lack of warmth and affection. Negative sentiments of their lack predominate in the parent's behaviour. Table 6 shows average of mothers' attitudes from both groups (on the basis of the before mentioned scales).

Table 6

Medium (mean) scale results of mother's attitudes both studied groups.

Kinds of mother's attitudes	Ascendancy (suprem.)	Helplessness	Concentration	Distance
Children with high attainments	4,23	5,33	4,73	3,96
Children with low attainments	5,43	6,40	5,83	4,66
Total the medium result	4,83	5,58	5,28	4,31

The view of medium (mean) results in particular scales allows us to say that mothers of children with low attainments show the least capacity to control the child; they are most helpless when faced with educational problems (6,40). They also obtained high results in Concentration Scale (5,83) and in Ascendancy (supremacy) Scale (5,43). Both rather high moderate result in the Scale of Distance point to decidedly improper or undesirable, educational attitudes which play an important role in child education. By contrast the analysis of mothers with high attainments children indicates that most of them display educationally desirable attitudes. None of these mothers reached negative results within the four scales though they were revealed in 40% mothers with an attitude of excessive Helplessness and in 6,6% mothers in Ascendancy Scale. In the Scales of Concentration and Distance only one mother showed undesirable intensity.

In order to check the results and the significance of differences between parental attitudes of mothers and child's functioning in the pre-school group, we made use of Student - Fischer test where the coefficient was defined by the letter „t”: Calculations were made according to the formula:

$$t = \frac{M_1 - M_2}{\sqrt{\frac{\sum X_1^2 + \sum X_2^2}{N_1 + N_2 - 2}}}$$

Assuming that differences will be significant at the significance level .05 where statistical value is $t > 2,00$ (taken from Student's table) in accordance with the critical value of the test $t = 1$, $V = N_1 + N_2 - 2$ we obtained the results contained in table 7.

Table 7

Significance of statistical differences
between medium (average) results of mothers from both groups in particular
scales of the questionnaire by M. Ziemska

Scales of the attitude	High attainments children	Low attainments children	Statistical values	
	Average results in the scale		t	p.i.
Ascendancy (supremacy)	4,23	5,43	2,93	< 0,01
Helplessness	5,33	6,40	2,20	< 0,05
Concentration	4,73	5,83	2,84	< 0,01
Distance	3,96	4,66	1,95	n.i.

Significant statistical differences between average results of mothers with high attainment children and mothers of low attainment children occur:

- in the scale of Ascendancy $t = 2,93$; $df = 60$; $p < 0,01$
- in the scale of Concentration $t = 2,84$; $df = 60$; $p < 0,01$
- in the scale of Helplessness $t = 2,20$; $df = 60$; $p < 0,05$

That means that mothers from the second group are more often faced with educational difficulties than mothers from the first group; they are also more help-less. They also tend to ascendancy and excessive concentration. The results obtained by mothers from both groups in the Scale of Distance are not statis-tically significant but they are very near the critical value. Now I am going to present sten results obtained by mothers through the questionnaire investiga-ting parental attitudes by means of central tendency and dispersion measures with reference to both studied groups.

Table 7 shows central tendency and dispersion measures and the median as well as the standard deviation calculated on the basis of sten values obtained by mothers in particular scales in groups of high and low attainments children.

The most typical and most frequent feature among mothers with high attainments children is central tendency (modal mean): it indicates desired attitudes in scales of Ascendancy and Distance. However in the Scale of Con-centration central tendency (modal mean) shows that the most frequent value was 6 stens which proves a moderate degree of this feature. The dominating result in the Scale of Helplessness was 7 stens which proves a decided lack of ability to manage the child. Modal means (central tendencies) obtained by mothers with low attainments children are higher in all Scales except the Scale of Helplessness in comparision with mothers of children with high attainments. The next measure of central tendency is the median or the value of a central feature in the ordered series. The differences between mothers of both groups are small in particular scales (the difference of 1 sten only).

Table 8

Measures of central Tendency and Dispersion
obtained by mothers from both groups
in the basis of M. Ziemska questionnaire

Groups of various attainments	Scale				
		Ascendancy	Helplessness	Concentration	Dstance
High attainments children	Mo	4	7	6	4
	Me	4	6	5	4
	σ	1,6	1,95	1,08	1,18
Low attainments children	Mo	5	6	7	5
	Me	5	7	6	5
	σ	1,5	1,96	1,54	1,53

Mo - modal mean, central tendency,

Me - median,

σ - standard deviation.

Standard deviation is the measure of dispersion. Comparing deviation obtained by mothers of both groups we can find that the greatest dispersion is observed in the Scales of Concentration and Distance. The results of mothers with high attainments children are more diversified in the Sale of Ascendancy than the results of obtained by mothers from the other group. However in the

remaining 3 scales the sten results of mothers with low attainments children are more diversified. Some mothers from this group obtained results proving the desired intensity of the feature but there also mothers who obtained high results representing an undesirable attitude.

Attitudes of mothers and the child's sex.

Table 9

Mothers of girls and boys according to the intensity
of attitudes in particular Scales.
The questionnaire by M. Ziemska

Scale	Ascendance			Helplessness		Concentration		Distance		Total	
Desirable		Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
	n	14	7	8	5	10	7	21	12	53	31
	%	46,7	23,3	26,7	16,7	33,3	23,4	70,0	40,0	44,2	25,8
Moderate	n	13	17	10	8	14	19	9	16	46	60
	%	43,3	56,7	33,3	26,6	46,7	63,3	30,0	53,3	38,3	50,0
Undesirable	n	3	6	12	17	6	4	-	2	21	29
	%	10,0	20,0	40,0	56,7	20,0	13,3	-	6,7	17,5	24,2
Total	N	30	30	30	30	30	30	30	30	120	120
	%	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

It results from the above - mentioned data that mothers of girls display:

- a desirable intensity of features in 4 scales with represents 44,2% of studied mothers,
- moderate intensity 38,3%,
- undesirable intensity 17,5%.

The greatest desirable intensity is shown in the Scale of distance and the greatest undesirable intensity is observed in the scale of Helplessness (40%). There are no mothers with the similar intensity in the Scale of Distance. Moderate intensity ranges from 30% (Scale of Distance) to 43,3 (Scale of Ascendancy). Mothers of boys display:

- a desirable intensity 25,8%,
- a moderate intensity 50%,
- an undesirable intensity 24,2%.

The greatest desirable intensity of attitudes were shown in the Scale of Distance 40% and the most undesirable attitudes were shown in the Scale of Helplessness (56,7%). There are also many mothers displaying, moderate intensity particularly in the Concentration Scale (63,3%) and Ascendancy Scale (56,7%). Comparing the results obtained by mothers of girls and boys we can find that girls more often remain under the influence of desirable parental attitudes. Mothers of girls also show undesirable intensity of attitudes in the studied scales less frequently than mothers of boys.

A fairly large group of girls (40%) and boys (56,7%) obtained high results in the Scale of Helplessness. These results show that mothers who have obtained them have no sufficient skills to manage their children. The condition of helplessness towards the child often occurs because of: lack of consistency in

education, low or very low educational consciousness, no existence (or neglect) of precise principles of dealing with the child. Boys more frequently remain under the influence of moderate parental attitudes. Such an intensity belongs to educationally undesirable attitudes. Mothers of boys in certain spheres act from the position of ascendancy, domination and have a greater propensity to a tendency to the distance in contacts with the child and little show of affection. Summing up we can say that mothers of girls obtained better educational results than mothers of boys in each of the studied scales.

The statistical analysis has shown that the obtained differences are statistically important: $\chi^2 = 56,401$; $df = 14$; $p < .01$. It proves the existence of parental relation represented by mother and the child's sex. The strength of this relation is $r_c = 0,436$ so it is average.

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